

Economic Growth and Political Institutions in the WAEMU: What Do We Know?

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Abstract

Political institutions are recently pointed out as one of the important factors in the economic growth process. This article investigates in the West African Economic and Monetary Union (WAEMU) the direct and indirect economic growth effect of three political indicators: Political stability and absence of violence and terrorism, rule of law, and voice and accountability. The Dynamic Common Correlated Mean Group Estimator results show that investing in the rule of law increases economic growth in the WAEMU, while political stability and absence of violence and terrorism, and voice and accountability have no direct effect on economic growth in this zone. However, the indirect effect through physical and human capital results indicate that the political variables affect positively economic growth through human capital and negatively through physical capital. The final indirect economic growth effect are negative due to the dominant relative magnitudes effect of physical capital (negative) on the human capital effect (positive).

Keywords: Economic Growth, Political Institution, Dynamic Common Correlated Estimator

* The views expressed in this paper are those of the author and should not be attributed to the Central Bank of West African States.

1. Introduction

In the economic growth literature, Acemoglu and Robinson (2012) show recently that the most democratic countries are, endowed with inclusive economic and political institutions, the most its enjoy a durable prosperity, while extractive authoritarian regimes lead to poverty. Some authors have also highlighted the importance of political institutions in the economic growth process. Alesina et al. (1993) prove empirically that in countries with high political instability, economic growth is significantly lower than otherwise, as well as Kostakis (2014) shows that political indicators, such as corruption, rule of law, and government effectiveness have a high impact on economic growth.

This raises the questions whether certain types of government institutions might help reduce this uncertainty (Stasavage, 2002).

Others authors prove that political institutions may have an indirect rather than direct effect on economic growth, through internal and foreign investments attracting (Hkson, 2010). Alesina and Perotti (1985) indicate that socio-political instability, by creating uncertainty in the politico-economic environment, reduces investment, hence economic growth. The others important channels through which political indicators affect economic growth are human capital formation (Klomp and De Haan, 2009; Outreville, 1999), and technical efficiency improving or the productivity growth rates (Aisen and Veiga, 2011).

However, this theory and its empirical evidence find difficulty to explain the long economic growth experienced by some countries over the last thirty years, notably China, South Korea, Taiwan and Singapore, the so called Asian Dragons.

Doucouliaogou and Ulubasoglu (2008) conclude that there is no clear evidence that democracy foster economic growth. Zouhaier & Karim (2012) prove that there is no effect of political instability on investment and economic growth in the Middle East and North Africa, but their results show a negative and statistically significant effect of the interaction between political instability and investment on economic growth.

Political institutions improving may, in the first time, increases economic growth. It well knows that economic growth generates complex changes in society, and instability such as political. As a consequence, economic growth could lead to political instability if the political system is not well-established.

The "vicious circle" relationship of political institutions and economic growth is also possible. Thus, Ahmed and Pulok (2013) show that political stability has negative effect on economic performance in the long-run, while the short-run effect is positive. Goldsmith also finds the same result by testing Mancur Olson's theory of political stability and economic growth. In addition, Abeyasinghe (2004) indicates that democracy has a negative effect on economic growth in developing countries, but the political stability, regardless of the level of democracy, has the greatest effect on a country's economic growth.

Despite existent studies find ambiguous results when testing for the relationship between political institutions and economic growth, there is little research that has attempted to examine this relationship in the West African Economic and Monetary Union (WAEMU).

This article extends the literature by investigating the political institutions and economic growth relationship in this region. It tests two hypotheses: Political institutions' investment is positively related to

economic growth due to its effect on the total factor productivity (direct effect), and political institutions' improving, by promote investment and human capital formation, increases economic growth (indirect effect).

To do so, this article offers an overview of the empirical framework in the next section. Section three presents results and discussion, and concluding remarks are provided in the last section.

2. Methodology and Data

2.1. Model Specification and Estimation Techniques

Our economic growth equation is based on the dynamic panel augmented Solow model in the style of Jones (2015), but with the dynamic common correlated effects. It allows accounting for both unobserved dependence between countries and heterogeneous factor. This equation is specified as follows.

$$y_{i,t} = \alpha_i + \lambda_i y_{i,t-1} + \gamma_i Pol_{i,t} + \beta_i X_{i,t} + \mu_{i,t} \quad (1)$$

$$\mu_{i,t} = \theta_i f_t + \varepsilon_{i,t}$$

$y_{i,t}$ represent the natural logarithmic form of the real gross domestic product per capita (Log_gdpc) of country i in time t . Pol is the political institutions indicators. It's computed by three variables: Political stability and absence of violence and terrorism (Pol_stab), rule of law (Ru_law), and voice and accountability (Voi_acc). X is a set of control variables, such as physical (Ck) and human (Hc) capital, and the population growth rate (Pop). Human capital is computed by the enrollment rate primary education and the physical capital is proxy by the gross capital formation as a share of gross domestic product. The heterogeneous coefficients are randomly distributed around a common mean, $\lambda_i = \lambda + v_{0i}$, $\gamma_i = \gamma + v_{1i}$, $\beta_i = \beta + v_{2i}$, where v_{0i} , v_{1i} , and v_{2i} are independent and identically distributed (i.i.d) with mean zero and finite variance σ_{20} , σ_{21} , and σ_{22} , respectively. f_t is an unobserved common factors and θ_i a heterogeneous factor.

Chudik and Pesaran (2015) prove that in this specification case, the idiosyncratic $u_{i,t}$ are cross-sectionally weakly dependent. They proposed to transform equation (1) to equation (2) as follows in order to gain consistency in the estimator.

$$y_{i,t} = \alpha_i + \lambda_i y_{i,t-1} + \gamma_i Pol_{i,t} + \beta_i X_{i,t} + \sum_0^{p_T} \bar{\delta}_{i,t} \bar{z}_{t-1} + \varepsilon_{i,t} \quad (2)$$

where $z_t = (y_{t-1}, Pol_t, X_t)$ and p_T is the number of lags.

When all explanatory variables coefficients are constrained to be the same across countries, $\alpha_i = \alpha$, $\lambda_i = \lambda$, $\gamma_i = \gamma$, and $\beta_i = \beta$, the equation (3) is obtained as follows.

$$y_{i,t} = \alpha + \lambda y_{i,t-1} + \gamma Pol_{i,t} + \beta X_{i,t} + \sum_0^{p_T} \bar{\delta}_{i,t} \bar{z}_{t-1} + \varepsilon_{i,t} \quad (3)$$

Equations (2) and (3) are estimated with the Dynamic Common Correlated Mean Group Estimator (See Ditzén, 2016 for more details) and Hausman specification test is performed to obtain the efficient and consistent estimator according to data feature. To check for the robustness of the model, Fisher statistic, R-squared adjusted, and CD test statistic (which check for errors terms weak cross-sectional dependence) are performed.

2.2. Data Description

The data set consist of annual observations from 1996 to 2014 and cover seven member countries of the WAEMU region: Benin, Burkina Faso, Cote d'Ivoire, Mali, Niger, Senegal, and Togo. Guinea-Bissau is excluded due to data availability. Real gross domestic product per capita, gross capital formation, enrollment rate of primary education, and the population growth have been gained from the World Development Indicators data base. Political stability and absence of violence and terrorism, rule of law, and voice and accountability were obtained from the data set of the World Governance Indicators (See Appendix for details).

3. Results, Analysis and Discussion

Results are reported in table 1 and 2. Its indicate that the constraint models are the efficient and consistent specifications under the null hypothesis, according to the Hausman's specification test. In addition, all constraint models are robust. The calculated Fisher statistics are statistically significant at the level of one percent for all specifications. Moreover, the R-squared adjusted is averaged to 85 percent, implying that models's explanatories variables variabilities explain 85 percent of the economic growth variability. Furthermore, the CD tests rejected the null hypothesis of the errors terms cross-sectionally weakly dependent. The CD statistics of all models are statistically significant.

Results suggest that when introduced one by one the three candidates political indicators, only rule of law affects directly economic growth. It's coefficient is 0.0128 and is statistically significant at 5 percent. This

implies that the short-run real gross domestic product per capita semi-elasticity to rule of law in the WAEMU region is 0.0128 and the long-run one is 0.06 [0.0128/(1-0.786)]. The direct effect hypothesis is valid with the rule of law indicator, but not with the political stability and absence of violence and terrorism, and voice and accountability. This result indicates that investing in the rule of law increases economic growth in the WAEMU, while political stability and absence of violence and terrorism, and voice and accountability have no direct effect on economic growth in this zone.

As Haggard and Tieda (2011) pointed out, the rule of law is a multidimensional concept. Investing in the rule of law framework implies that the most of its discrete components improve, such as violence, security of person, property rights and the institutions required to enforce them, such as government and judicial independence. These aspects are fundamental in the total factor productivity growth and the economic growth process because the law does not only regulate economic activity but also provide its foundation.

However, Ramanujan et al. (2012), based on five components related to the rule of law: governance, institutions, the judiciary, corruption, and media and civil society, demonstrate that there are no clear answers or obvious interpretations to the complex relationship between rule of law and economic development in the BRICS (Brazil, Russia, India, China and South Africa) countries.

Results also show that physical and human capital are positively related to the economic growth in the WAEMU. Their coefficients are statically significant and averaged to 0.006 for the gross capital formation, and 0.0004 for the enrollment rate of primary education. These imply that the short-run semi-elasticity of WAEMU countries' real GDP per capita to physical and human capital are 0.006 and 0.0004, respectively, and the long-run semi-elasticity are 0.03 [0.006/(1-0.8)], and [0.0004/(1-0.8)], respectively. These findings are in favor of the endogenous economic growth theoretical predictions.

Table 1: Political Institutions and Economic Growth direct effect Results

| Variables | Model (1) | Model (2) | Model (3) | Model (4) |
|-------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| L.log_gdpc | 0.796*** (0.0568) | 0.805*** (0.0560) | 0.786*** (0.0553) | 0.804*** (0.0580) |
| Ck | 0.000655* (0.000335) | 0.000694** (0.000329) | 0.000543 (0.000340) | 0.000649* (0.000331) |
| Hc | 0.000433** (0.000208) | 0.000431** (0.000212) | 0.000411** (0.000203) | 0.000397* (0.000206) |
| Pop | 0.00601 (0.00535) | 0.000977 (0.00582) | 0.00211 (0.00521) | 0.00443 (0.00611) |
| Pol_stab | | 0.00358 (0.00263) | | |
| Ru_law | | | 0.0128** (0.00497) | |
| Voi_acc | | | | 0.00328 (0.00615) |
| Constant | 0.836** (0.354) | 0.745** (0.369) | 0.735** (0.345) | 0.807** (0.350) |
| Observations | 126 | 126 | 126 | 126 |
| R-squared | 0.854 | 0.856 | 0.859 | 0.854 |
| F-statistic | 155.57*** | 135.67*** | 145.39*** | 135.18*** |
| CD test-statistic | 2.30** | 2.51** | 2.72*** | 2.30** |
| Number of groups | 7 | 7 | 7 | 7 |

Source: Author's estimation. Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

About the second hypothesis, checking for the indirect effect of the political institutions to the economic growth, by interbreeding political variables and physical and human capital, results indicate the three political indicators are indirectly related to economic growth. Their coefficients are statistically significant.

All the three political variables affect positively economic growth through human capital, and negatively through physical capital. The final indirect economic growth effects are negative for all variables due to the relative magnitudes of the physical capital indicator (negative) and the human capital variables (positive). The coefficients of political stability and absence of violence and terrorism, rule of law, and voice and accountability are -0.0007, -0.001, and -0.001, respectively, for physical capital, and 0.0002, 0.0004, and 0.0005, respectively, for the human capital.

Table 2: Political Institutions and Economic Growth indirect effect Results

| Variables | Model (1) | Model (2) | Model (3) |
|-------------------|---------------------------|---------------------------|---------------------------|
| L.log_gdpc | 0.869*** (0.0464) | 0.893*** (0.0516) | 0.894*** (0.0503) |
| Pop | -0.000119 (0.00628) | -0.00132 (0.00569) | 0.000802 (0.00558) |
| Ck*Pol_stab | -0.000734** (0.000300) | | |
| Hc*Pol_stab | 0.000211*** (7.77e-05) | | |
| Ck*Ru_law | | -0.00128*** (0.000450) | |
| Hc*Ru_law | | 0.000445*** (0.000118) | |
| Ck*Voi_acc | | | -0.00118** (0.000509) |
| Hc*Voi_acc | | | 0.000472*** (0.000138) |
| Constant | 0.0985 (0.208) | -0.155 (0.184) | 0.0746 (0.172) |
| Observations | 126 | 126 | 126 |
| R-squared | 0.842 | 0.851 | 0.851 |
| F-statistic | 161.81*** | 137.43*** | 148.59*** |
| CD test-statistic | 2.74*** | 2.26** | 1.82* |
| Number of groups | 7 | 7 | 7 |

Source: Author's estimation. Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

4. Conclusion

In the economic literature, political institutions are recently pointed out as one of the important factors in the economic growth process. Despite existent theoretical models predictions and empirical results are ambiguous when analyzing the relationship between political institutions and economic growth, there is little research that has attempted to examine this relationship in the WAEMU.

This article investigates in the WAEMU the direct and indirect economic growth effect of three political indicators: Political stability and absence of violence and terrorism, rule of law, and voice and accountability. The methodological approach is based on the dynamic panel augmented Solow model in the style of Jones (2015), but with the dynamic common correlated effects. The Dynamic Common Correlated Mean Group Estimator proposed by Chudik and Pesaran (2015) are performed.

Results show that investing in the rule of law increases economic growth in the WAEMU, while political stability and absence of violence and terrorism, and voice and accountability have no direct effect on economic growth in this zone.

About the indirect effect through physical and human capital, results indicate that political variables affect positively economic through human capital and negatively through physical capital. The final indirect effect are negative due to the dominant relative magnitudes effect of physical capital (negative) on the human capital effect (positive).

These findings imply that to increase economic growth, WAEMU countries must not only make effort to improve the overall political index but also pay attention to the components in favor of physical capital such as corruption, property rights and judicial independence.

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Appendix: Definitions and Sources of Variables

| Variables | Definitions | Sources |
|--|---|------------------------------|
| Real Gross Domestic Product per capita in the logarythm form | Log_gdpc = Ln (gross domestic product at constant price (base = 2010) / population) | World Development Indicators |
| Population growth rate | Pop = Population growth rate | |
| Physical capital | Ck = Gross capital formation | |
| Human capital | Hc = Enrollment rate of primary education | |
| Political stability and absence of violence and terrorism | Pol_Stab = Political stability and absence of violence and terrorism index estimation | World Governance Indicators |
| Rule of law | Ru_Law = Rule of law index estimation | |
| Voice and accountability | Voi_Acc = Voice and accountability index estimation | |

Source: Author